$\boxed{m_C = 30g}$

$m = m_C + m_{Fe}$

$m_{Fe} = m - m_C = 1 - 0,03 = 0,97kg$

$\boxed{m_{Fe} = 970g}$

2) $n_{Fe} = \dfrac{m_{Fe}}{M_{Fe}} = \dfrac{970}{56} = 17,32mol$

$n_C = \dfrac{m_C}{M_C} = \dfrac{30}{12} = 2,5mol$

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1) a) $n_{NaCl} = \dfrac{m_{NaCl}}{M_{NaCl}}$

$M_{NaCl} = M_{Na} + M_{Cl} = 23 + 35,5 = 58,5g.mol^{-1}$

$\Rightarrow n_{NaCl} = \dfrac{35,1}{58,5} = 0,6mol.$

b) $NaCl \rightarrow Na^+_{aq} + Cl^-_{aq}$

c) $n_{Na^+} = n_{cl^-} = n_{Nacl} = 0,6mol.$

d) $\left[Na^+\right] = \left[Cl^-\right] = \dfrac{n}{V} = \dfrac{0,6}{0,2} = 3mol.L^{-1}$

2) (S_2) est une solution de $FeCl_2$

a) $m = n \times M_{FeCl_2}$

Or $n = C_2V_2$

$\Rightarrow m = C_2V_2 \times M_{FeCl_2}$

Or $M_{FeCl_2} = M_{Fe} + 2M_{Cl} = 56 + 2 \times 35,5$

$= 127g.mol^{-1}$

① $\Rightarrow m = 0,2 \times 0,1 \times 127$

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